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A REVIEW OF PRAGMATISM AS A THEORY OF KNOWLEDGE[1]

IN preparing this paper I have become aware in myself of a certain habit of mind. It has arisen, I imagine, from repeated attempts to clarify obscure issues in lecturing to students: but whatever its psychological source, it seems worth while to describe it for the light which it throws upon the theory of knowledge to which I shall be more or less explicitly appealing in my criticism of pragmatism. I find myself attempting to demonstrate, in the sense of *showing* or *making to appear*. Philosophical topics, to be sure, do not readily lend themselves to this mode of treatment; nevertheless I find myself imagining that the object of inquiry may somehow be set down between my hearers and myself where we can survey it together and perhaps eventually agree because we are both looking at the same thing. In other words, I always try to simulate the presence of the experience to which the problem refers. The present task, involving both my readers and myself, would thus seem to me to be the joint examination of a complex but familiar experience wherein Messrs. James, Schiller, Dewey *et al.* have found certain elements and relations which they take to be highly significant, and

[1] In making this study of pragmatism, I have relied mainly on the following sources: William James: 'Humanism and Truth,' *Mind*, N. S., Vol. XIII.; 'Pragmatism's Conception of Truth,' this JOURNAL, Vol. IV., p. 141; 'A Defense of Pragmatism,' *Popular Science Monthly*, Vol. LXX., Nos. 3 and 4. Schiller: 'Humanism'; 'In Defense of Humanism,' *Mind*, N. S., Vol. XIII. John Dewey: 'Logical Studies'; 'The Reflex Arc Concept,' *Psychological Review*, Vol. III.; 'The Experimental Theory of Knowledge,' *Mind*, N. S., Vol. XV. A. W. Moore: 'Existence, Meaning and Reality in Locke's Essay,' University of Chicago Decennial Publications; 'The Functional *versus* the Representational Theories of Knowledge in Locke's Essay,' University of Chicago Contributions to Philosophy. G. H. Mead: 'The Definition of the Psychical,' University of Chicago Decennial Publications. H. H. Bawden: 'The Functional View of the Relation between the Psychical and the Physical,' *Philosophical Review*, Vol. XI.; 'The Functional Theory of Parallelism,' *Philosophical Review*, Vol. XII.; 'The Meaning of the Psychical from the Point of View of the Functional Psychology,' *Philosophical Review*, Vol. XIII.

which they have more or less consistently and intelligibly described in their theory of truth. Does the same experience reveal to us what it has revealed to the pragmatist? Will what the pragmatist sees there stand the light of renewed examination; will it resolve itself into something else, or will it vanish away like a ghost at the approach of dawn? Is pragmatism a reality, an illusion or a hallucination? In thus formulating the question I am supposing that truth is discovered and critically inspected experience; that to know is to see, whether with the bodily eye or with the eye of the soul; and that knowledge is perfected when the idea coincides with its object in direct apprehension. Whatever the outcome of our inquiry, there is a certain immediate advantage in the use of this method; for it makes negative criticism impossible. If we are unable to confirm the finding of the pragmatists, it must be because we have found something else.

If pragmatism is to be examined in the manner which I have indicated, it is necessary that we should first discover its locus in experience. What is pragmatism a description *of*, or a theory *about*? Now it is entirely clear that pragmatism is not, primarily, at least, a theory of reality, but a theory of knowledge. The term truth is here used as qualifying thought rather than being. At the very outset there is danger of confusion because of the ambiguity of such a term as truth. It is of the very nature of knowledge that at the point where it is true it sustains relations of peculiar intimacy with being. It is both true *for* a knower and true *of* being. Indeed, the same ambiguity attaches to the term knowledge, for knowledge is not held to be really knowledge until it is true. But it is clear that the pragmatist arrives at what he calls truth by following the series of thought rather than the series of being. There is a stage in thought at which the thinker possesses the assurance of truth, after the raising of some question, the trial of alternatives and the affirmation of some one of them. The thinker at length believes or makes up his mind; and in this experience thought is concluded. The enterprise is finished, and the activity suspended, even though at some later time the thinker may be compelled to judge retrospectively that he was in error. "What we want," says Professor Dewey, "is something that takes itself as knowledge, rightly or wrongly."[2] Since, then, the truth which the pragmatist is talking about is the concluding phase of thought, we may properly refer his description to the experience of *arriving at belief*. This may be said to be the locus of pragmatism; and in examining this experience we ought either to see what the pragmatist sees or something which accounts for it while correcting it or

[2] 'The Experimental Theory of Knowledge,' *Mind*, N. S., Vol. XV., p. 20.

replacing it. I have found the pragmatist's description of the thought-process highly obscure, but shall venture a brief preliminary outline of what I have been able to understand and verify for myself. He marks in the first place what we may call a prediscursive experience wherein knowledge and its object are not as yet distinguished. In this experience the controlling principles are practical. Life is going on, consisting in attitudes appropriately expressing desires and purposes. The organism is herein well adapted to its environment; it possesses sufficient familiarity with the environment to run smoothly and act unhesitatingly. But there now appears a new phase of experience in which the properly cognitive situation stands revealed. The transition is described by Professor Dewey as 'a disintegration of coordination,' by Professor Moore as an 'interruption in the continuity of habit' and by Professor Bawden as a condition of 'tension.' This, as I understand it, is the state of thought as that arises in the course of conduct. A situation puzzles me, and I require so to conceive it as to be enabled to resume my action. Such a moment is analyzable into the following factors:

1. *Reality, or Beliefs already Fixed.*—This element of experience is the object (this term now appearing for the first time) in so far as already known. The pragmatists would seem to disagree among themselves as to whether sensation belongs to this category or to the next. Let us designate this factor of the situation by the letter *M*.

2. *The Object as Problematic.*—This is the disturbing factor, consisting in a sensation as yet unresolved, or in a general discord which makes the situation practically unworkable. Let us designate this factor as x.

3. *Ideas,* or, to quote Professor Moore's phrase, *'Instruments of Reconstruction.'* These elements, which we may designate as a', b', c', are tentative interpretations of x, and mark the period of deliberative hesitation.

4. *The Noetic Interest.*—Herein appears for the first time the subject or the knower himself, experienced as a particular need actively attempting to relieve itself. Let us designate this as *S*. *S* is not to be identified through its content so much as through its 'polar' relation to *O*.

The interest *S* will be realized when, x having been assimilated to *M*, conduct is resumed and experience enters upon a postdiscursive immediacy. The resolution of the situation will take place in something like the following manner. *S* projects judgments x *is* a', x *is* b', x *is* c', etc. Of these x *is* a' alone proves compatible with *M*. In the selected affirmation x *is* a, a' loses its ideal status and becomes homogeneous with *M*, but at this point $M + a$, or object believed, loses its objectivity or difference from *S*, and the cognitive experience is replaced by the normal practical immediacy.

Now, the locus of truth, as the pragmatist describes it, is the point at which this complex cognitive structure begins to collapse or shut up. Some such process indubitably occurs, and the pragmatist is correct in directing our attention to its critical moment. The locus of true knowledge is doubtless at the point of transition from discursive to immediate experience. But *what in this moment constitutes its truth?* To answer that question correctly is to answer the question which pragmatism, as a theory of truth, explicitly raises. Unfortunately, the answer of the pragmatist is not clear or unequivocal. Indeed, there seem to be many answers which are not reciprocally necessary, if, indeed, they are compatible. To the end of clarifying the issue I shall from this point forth discuss seven distinct propositions, all of which refer directly or indirectly to the situation just described, and all of which are to be found in the current writings of the pragmatists.[3] Some of these propositions seem to me to be a correct reading of the situation, others not. Whether pragmatism requires that they shall all be true or can identify itself with some of them, I shall leave it to the reader to conclude.

I. *Truth in Knowledge is always Relative to a Particular Intention.* The pragmatist together with the idealist has done well to insist upon this proposition. The truth or falsity of any judgment depends, as every one will readily agree, upon what is meant. No one attempts either to verify or to refute any conclusion until one has identified its reference. One can always escape a specific charge of error by saying, 'I did not mean that.' One who does not mean anything or who can not distinguish what one means from what one does not mean, may from the critical point of view be disregarded entirely. However, it is important to guard this generalization. The truth or error of knowledge is relative to an intention to know some one thing rather than some other thing, to know x rather than y, and not upon an intention to put the knowledge to some use. Thus, I may intend to vote for the man with the cleanest record, and proceed to discover him; but it is the latter intention alone, the intention to discover that one among the candidates who has the cleanest record, to which my ensuing belief is relative as respects its truth or error. It is clear that the truth or error of one's judgment depends upon what one wants to know, but there is no ground for saying that it depends upon what one wishes to do with the knowledge when one gets it. One may always reserve beliefs for subsequent uses that

[3] Three of these propositions will be examined in the present paper, and the others in a paper entitled 'A Review of Pragmatism as a Philosophical Generalization'—to appear in a later number of this JOURNAL.

at the time of their formation are highly problematic. It may be true that one always wants knowledge for some other than cognitive purpose, but such ulterior purposes, vague and tentative as they are, clearly have nothing to do with that *specific* intention upon which the proof of a judgment turns.

We may follow the pragmatist, then, so far as to agree that the truth or error of a judgment involves reference to the particular situation in which it arises. The truth or falsity of the judgment *x is a* could not be proved by any knower who was not in possession of *x*. There is still, it is true, a very significant question which the pragmatist has not clearly answered. How is an intention to be identified? How is the question 'What is *x*?' to be distinguished from the question 'What is *y*?' Questions can not be identified merely through identifying the thinker, for the same thinker may ask many questions, and many thinkers may ask the same question. Reverting to the general thought process as described above, I can find no answer to this question unless we are willing to designate the intention by its real content. I find that an intention to know some particular thing is identified only through that particular thing which one intends to know. In other words, a problematic *x* can be distinguished from a problematic *y* only so far as *x* has a being, or real quality, different from that of *y*. In this case, then, *x* in the above analysis must always be homogeneous with *M*, except as respects clearness or adequacy. The significance of this will, I trust, appear later. There is a certain verification of it in the fact that whenever we are in doubt as to our cognitive intention, we deal with experience as realistically as possible. I can best indicate to you what I am thinking about by pointing to the thing itself or setting it down between us.

II. *The Proof of Knowledge Must be Contained in the Process or State of Knowledge.* Professor James says: "Is it not obvious that even though there be . . . absolute sailing directions in the shape of prehuman standards of truth that we *ought* to follow, the only guarantee that we shall in fact follow them lies in our human equipment? The ought would be a *brutum fulmen* unless there were a felt grain inside of our experience that conspired."[4] Although this is an important and far-reaching proposition, I do not hesitate to accept it; for it appears to me to be self-evident. It means, for our purposes, that all the elements for the proof of knowledge must be contained within the thought process itself, as analyzed above. The guarantee of knowledge as true can not consist in any *ab extra* verification. If *I* am to know at all, I must be cognitively self-sufficient.

[4] "Humanism and Truth," *Mind*, N. S., Vol. XIII., pp. 464–465.

The verification of my knowledge must be internal, an experienced relation between my intention and my progressive enlightenment. All of the elements which enter into my conviction of truth must be elements of my own experience. I can be convicted of error only through being led to correct my own initial experience in the light of my own wider experience. To suppose the contrary is equivalent to declaring of every particular state of knowledge that in itself it is not true knowledge. Even if we prefer to conceive of one absolute knower as alone typical, we must suppose even such a knower to rely upon his own internal conviction, even for the knowledge of his own finality. If the absolute is to know that he is absolute, the proof of it must lie among the elements of his own experience. But if we thus restrict knowledge to the absolute knower, we involve ourselves in a predicament as embarrassing as it is unnecessary. For it would then follow that only an absolute knower could know that there is an absolute knower. Indeed, such a proposition as is involved in the judgment 'I know that only God knows' (equivalent to 'I know that I can not know') is a flat contradiction. We can not even attribute to an absolute knower any superior qualifications for knowledge except such as arise from a completer experience of the particular things which he proposes to know; and similarly the sufficiency of my own experience will always be determined by the degree to which I have covered the particular things which I propose to know. There is no virtue in irrelevant experience, no matter how widely it may be extended. The way to adequate knowledge is not the general increase of experience, but close application to the matter in hand. We conclude, therefore, that if knowledge is not to be pronounced absurd *a priori*, the so-called finite or human knower must glean truth out of his own experience; must, in short, find among the elements embraced in the cognitive experience as above analyzed the certification of his own knowledge.[5] This is, of course, far from saying that the proof of truth must be referred to the caprice of the individual, for among the elements contained in the individual experience are certain elements which possess the status of reality or being. These are as proper parts of the cognitive process as is the alleged active interest which distinguishes itself from them. Our conclusion thus far means only that to know truly involves nothing beyond what is covered by the knower's own experience.

The issue is sometimes obscured by phrasing the question: How do I know that I know? But this complexity of phrase contributes

[5] It could easily be shown, following out what has been said above, that unless one could know within the bounds of one's own experience, one could not even *intend* to know.

absolutely no additional meaning. I know that I know in precisely the same way that I know anything else. What we are seeking is not a description of that particular kind of knowledge in which knowledge is also the object known, but a description of that which is common to all cases of knowledge. How do I know that x is a, that y is b, or, in general, *how* do I know?

Now thus far I find in pragmatism nothing from which experience forces me to dissent. In every case of knowledge there is an intention, and the proof of truth must be an experienced sequel to that intention. In every case of true knowledge there is one who intends, and it is he, if any one, who knows the truth concerning his intention. It is revealed to him. True knowledge is sought and found by a knower in one identical and self-sufficient process.

III. *The Mark of the Truth of Knowledge is the Satisfying Character of the Practical Transition from Cognitive Expectation to Fulfillment, or of the Resolution of Doubt into Practical Immediacy.*—I have had no little difficulty in thus phrasing what I believe to be the crucial thesis in pragmatism, but I trust that this proposition when elucidated will prove acceptable. In the analysis with which I first presented the problem, I indicated what we may all agree to be the moment at which knowledge becomes true. There is a period of arrest followed by a moment of release. This series may with entire propriety be construed in practical terms. It possesses all the characteristics of a practical enterprise,—interest, desire, hope, fear, suspense, excitement, delight, and a satisfaction which gradually loses its feeling intensity. If I describe the moment of truth according to its place in this series, it will undoubtedly be that moment in which suspense is relieved and replaced by satisfaction. Now the pragmatist, as I understand him, conceives that when that moment is thus described the element of truth is defined. The truth of belief, in other words, is to be marked by its place retrospective and prospective in the enterprise of thought. Thus Professor James says that, according to pragmatism, 'the truth of any statement *consists* in the consequences, and particularly in their being good consequences.'[6] Now it must be observed that the essence of the matter is the degree to which the satisfying character of the crucial moment *constitutes* its truth. That the truth when sought and found is satisfying, no one will be disposed to deny; but to say that the satisfaction element is identical with the truth element is another matter. And it would seem to me that the frank empiricism of the pragmatist here provides a disproof of his conclusion. Having insisted properly enough that true knowledge belongs to a practical context, he neglects the fact that precisely at the point where

[6] *Op. cit.*, pp. 31–32.

knowledge is true, it belongs to another context, namely, that of reality. In the very analysis of the pragmatist himself, we may find that which *conditions* the satisfaction to which the pragmatist attaches so much importance. It is because x when construed as a may be assimilated to M that the tension is relieved. It is because the statement is verified through being found consistent with reality, that its consequences are good. There is, in other words, a ground for the satisfaction taken in truth. The knower is satisfied with a certain condition into which his experience is resolved. Truth satisfies because of what it is; the knower, if he is but faithful to his own intention, will be satisfied with nothing else. The pragmatist admits that knowledge is true in so far as verified, but emphasizes the adventure of *verification* to the neglect of that in which verification consists. Now if we examine closely into the nature of the verification, and keep in mind what has been said concerning the intention of the knower, the facts seem to be clear. I can not intend to know x without already experiencing, to the extent of distinguishing, the object which I propose to know. My intention, in other words, is a partial knowledge of the object. My tentative judgments, since they must refer to the object, must be intermittent and equivocal experiences *of it*. When some one of these judgments is verified, some such partial experience steadily persists and develops into the object. But let us refer more explicitly to our introductory analysis. M is reality accepted as such; x designates my intention and must belong to the same context, because it is (though problematically) an object known to be real. When my judgment x *is* a is verified, the experience $M + x$ gives way gradually to the experience $M + a$. Now M is described by the pragmatist as reality. If we substitute for the term 'reality' the phrase 'funded belief,' we have only postponed the issue; for we are supposed to be analyzing a typical instance of the formation of belief and the typical instance involves the acceptance of something as real. We may say, then, that whenever a belief is formed or knowledge is taken to be true, some problematic or confused element of experienced reality is through further examination completed and coordinated with other elements of experienced reality. The essential factors, *consistency* as well as *reality* and *quality,* are all objective, given and not supplied. A judgment is verified when upon further inspection and confrontation with reality it stands its ground. In other words, a judgment is true in so far as it coincides with a proposition or complex entity which is found with its distinguishing characters upon it, and its consistency about it.

The processes of knowledge which for the pragmatist are most

typical, are those in which there is a high degree of indirection. The greater the pomp and circumstance of knowledge, or the dramatic interplay of interests, the more important the element of satisfaction. But it is clear that this does not in itself determine truth. I may put experience behind me and make a game of finding it without thereby enhancing the truth of my discovery; for upon the showing of pragmatism itself it is the moment of confirming experience in which the truth shows its face, and there are many such moments in which circumlocution and anticipation play a very small part. It is in perception, enriched and made adequate by thought, that the cognitive moment is seen to the best advantage; and there one knows truly because one's knowledge merges into its object. Now, undoubtedly, indirection is characteristic to a greater or less degree of all knowledge. As I can not know, neither can I, humanly speaking, think, without the use of language and various other expedients for substitution; but it is a fact which the pragmatist is far too inclined to overlook that in cognition symbols can not be employed without an antecedent and explicit knowledge of their reference. It has been possible for me to use verbal symbols in the present discussion only because they may put the reader in mind of the same object which I am contemplating in my own thought; and the truth or falsity of what I say has reference not to the existence or consistency of the words, but to the existence or consistency of certain elements of experience which all parties to the discussion may directly have in mind. So far as I am able to see there are only two legitimate kinds of substitution in knowledge. In the one case, the substitute serves as an index, as a means of communication or record, which will point the thinker to a certain region of experience. In the other case, as when I study social movements in statistical tables, the substitute is partially identical with the object. In both cases my thinking, in so far as true or false, is in terms of the object itself. I think about that to which the verbal symbols point me or about that which is common to the representation and to the object. If this be true, the proof of truth must be sought not in any relation between the terms of discourse as such, but directly in the elements and systematic relations of real experience.

The realistic view which I have here briefly indicated, is, I understand, held by some pragmatists to be consistent with that doctrine; but if this is to be the case it would seem to me that pragmatism must be so reworded as to lose its radical character. It would then mean that truth, since it is an attribute of knowledge, must always be related to a cognitive interest and have characteristics which are derived from that context. This is a very different thing from

saying that one is to look to these characteristics for its proof. For pragmatism as a radical doctrine truth is held to *consist* in an experience of satisfaction, such as 'All's well, now I can act.' For realism truth consists in an experience of identification, such as 'Here is a or $M + a$.' These two theories strictly held and strictly interpreted are not compatible. The pragmatist insists that true knowledge is a function of the process of knowledge. The critic of pragmatism insists, firstly, that true knowledge is also a function of the thing known; secondly, that in this latter functional relation is to be found the element of truth. Truth, because it is a part of the cognitive interest, must satisfy; but because it is *truth* it must envisage reality.

In this criticism I have not resorted to a general and vague insistence that true knowledge must 'correspond' to its object. I agree with the pragmatist that this is to take refuge in confusion. At the same time I would insist upon emphasizing the object as the element which plays the determining part in the constitution of truth. Experience seems to me to reveal the identity of true knowledge and its object. The object with what is true of it, and knowledge when true for the thinker, are one and the same thing. But this thing may be regarded in two ways because it belongs to two different series. If the object is approached along the cognitive series, then its uniqueness, its distinction in that series, is due not to its place in that series, but to its belonging to another series. The term *true knowledge* in the cognitive series is marked by its being the term in which this series intersects the series of reality. If the pragmatist is willing to accept this conclusion, then the issue is greatly clarified; but he can not, I believe, do so without largely abandoning those generalizations and philosophical corollaries of which he makes so much.

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DISCUSSION

CONTEMPORARY REALISM AND THE PROBLEMS OF PERCEPTION

IN the issue of this JOURNAL for May 9, Professor B. H. Bode has criticized the contemporary or monistic forms of realistic doctrine on the ground that they show a disposition to evade certain classic difficulties in the theory of perception, difficulties which have in the past invariably led those who faced them away from the naïve

realism of common sense into the dualistic or inferential realism of popular philosophy, and thence on, by an inevitable dialectic, either to agnosticism or to subjective idealism. Professor Bode's criticism seems to me just. Before a new doctrine can be established it is usually necessary to make a place for it by attacking its rivals, especially if the latter are firmly entrenched in popular favor. The proponents of the new realism have consequently expended most of their energies hitherto in an attempt to arouse idealism from its dogmatic slumber by exposing the fallacies incidental alike to its Berkeleian and its Kantian forms; and aside from this more or less ungracious work of refutation there has been time only for brief and somewhat schematic formulations of the new theory in its positive or constructive aspects. Professor Bode's recognition of the existence of monistic realism[1] and his reminder of the peculiar difficulties with which it is confronted, would seem to offer a suitable opportunity for essaying what is always the second and more interesting step in the development of a doctrine—namely, the testing of it pragmatically by an application of it to specific problems.

Professor Bode first asks the realist to state 'what conception we are to form of those objects which are commonly regarded as subjective.' "However much we may insist upon the proposed extension of the term object, it must be conceded that objects fall into two classes, those of which the conditions coincide with the conditions of consciousness and those which exist whether there is an awareness of them or not. To the former belong objects such as emotions, reminiscences and volitions. There is a sense, however, in which this coincidence of conditions must undeniably be regarded by realism as a mere accident. Or, to put it differently, just as it is possible for realism to conceive a world of material objects in which the conditions for consciousness have somehow failed to become realized, so it must likewise be possible to conceive a world which includes emotions and volitions, but without awareness. Such objects, I submit, are meaningless."[2]

As this criticism appears to be based on a slight misunderstanding of the theory criticized, it will not be out of place to state once more the distinction between dualistic and monistic realism. Every realistic theory holds it to be true that some objects do not depend for their existence upon the fact that they are known. Knowledge

[1] By monistic realism I do not, of course, mean any doctrine that would conflict with metaphysical pluralism, but only that epistemological monism which opposes the dualistic or representative theory of knowledge according to which objects and the ideas by which they are known are regarded as two incommensurable orders of facts.

[2] 'Realism and Objectivity,' this JOURNAL, Vol. IV., p. 260.

or consciousness is regarded as a relation which these objects may or may not sustain to one another. But dualistic or Cartesian realism restricts this relational conception to objects that are known indirectly or merely inferred. Directly perceived objects are thought of as 'mere ideas' existing *only* in the mind, and constituting an entirely different order of existence from that of real objects. The adjective 'dualistic' applies to this Cartesian and Lockean doctrine, for the world is made to consist of two types of beings—the natural system of bodies and events in space, on the one side, and, on the other, a spaceless and therefore extra-natural realm of minds and their ideas: while to *knowledge* is left the necessarily mystical and ungrateful task of joining together what a dualistic nature has so effectually put asunder. The way in which the idealist meets this situation is well known. He simply cuts out the self-subsistent natural world of material bodies in space and leaves only the supernatural or spaceless realm of minds and their ideas or states. The world of reality thus becomes restricted to the world of *experience*. Systems of planets and systems of electrons, with the severely beautiful laws that govern their evolution, are given over to the scientist with the proviso that they are to be treated as mere artifacts, constructs or abstractions from human experience.

The monistic realist deals with the *impasse* of dualistic realism in a fashion that is equally revolutionary and more genuinely 'Copernican.' Instead of leaving out the Cartesian world of natural objects, he retains that world and leaves out the super-spatial and super-natural system of 'minds' and 'ideas.' He extends the relational theory of cognition to all objects—to those that are directly perceived in sense perception no less than to those that are merely inferred as the transcendent causes of perception. He is monistic in his epistemology because he believes in only one system of realities, the realities in space and time; he is realistic because he believes that no object forfeits its objective or self-subsistent character by chancing to stand in the consciousness relation. So far the contemporary realists are, I believe, in agreement. All contents of consciousness or experienced qualities are objects of the same order of reality, each one a constituent member of one and the same spatio-temporal system of nature. Consciousness itself is a relation between these objects. But now arises the question as to the *kind* of relation that consciousness is. A monistic realist, as such, is only committed to defining consciousness as a relation between natural objects, but not necessarily as itself an objective or natural relation of the same order of reality as the objects which it relates. Whether, for example, Mr. G. E. Moore would be willing to treat 'diaphanousness,' or whether Professor Woodbridge would be willing to treat 'impli-

cativeness' (which are the characteristics that these two realists seem respectively to regard as most distinctive of the consciousness relation), as in themselves objective natural facts, I do not know. I ventured to christen my own brand of monistic realism ' panobjectivism,' to express the belief that not only all contents were objective, but also that consciousness or subjectivity itself was an objective fact, *i. e.*, a relation existing in a material nature along with other relations and, like them, describable ultimately in terms of the basic relations of space and time.

To return, then, from this explanatory digression to the point of Professor Bode's criticism. I find no difficulty from the standpoint of panobjectivism in admitting to the critic that there are certain facts such as decisions, emotions and feelings that are incapable of existing apart from consciousness or awareness. But note that if consciousness is itself a purely objective and natural relation the dependence of other facts upon it will not confer upon these latter any peculiar status, nor make them any less objective than if they lacked this dependence. The weight of a body depends upon the relation of that body to some other body, yet, notwithstanding such dependence, weight is as objective as inertia or figure and altogether on the same level as these seemingly more intrinsic qualities. I dare say there is no object the existence of which does not depend upon the relation subsisting between some other objects. Indeed, the goal of science seems to be nothing more than the correlation of every phenomenon with those relations between other phenomena upon which its appearance depends.

Professor Bode, in his second criticism, asks whether or not the new realism would regard the quality cognized in sense perception as numerically identical with the quality pertaining to the physical object. "If the distinction [between the immediately perceived object and the physical fact inferred to be its cause] is denied, the conception of objectivity becomes meaningless; while if it is affirmed we are forced back, after all, into the subjectivism from which it is the function of panobjectivistic realism to provide deliverance. . . . If there is numerical identity between the quality of the object and the quality perceived, we are obliged to say that the object possesses simultaneously all the qualities revealed in the different perceptions. Or, more specifically, we must be prepared to assert that an object may be both red and gray, both moving and stationary, both square and oblong . . . an object that possesses this incomprehensible fullness of character whereby it is enabled to be all things to all men is merely a name for the fact that experience takes place. . . . When error ceases to be possible the object loses forthright its title to existence. If, however, we resort to the second

alternative and affirm a numerical distinctness between the quality perceived and the quality possessed by the physical object, the case is not much mended. We have now two orders of reality instead of one. . . . And it seems obvious that the question of the relation between these two different orders introduces anew, and in substantially the same form, the whole problem of dualism or subjectivism upon which the earlier realisms were wrecked.''[3]

Professor Bode has here stated, and, as it seems to me, in an unusually clear fashion, the most difficult problem in the whole theory of knowledge. Monistic realism certainly has not solved it. It is equally certain, though not mentioned by the critic, that no other epistemological theory has solved it. I venture to think that a profoundly important step toward its solution has been taken by the new realists in their unanimous recognition of the truth that perceived object and real object are at least the same kind of facts, and belong together in one and the same spatio-temporal order of material nature. Whether they are numerically identical, whether merely similar in quality, or whether they are neither similar in quality nor identical in substance, are questions which might be answered differently by the different members of the group. In the hope that other realists will be tempted to formulate more adequate solutions of this all-important problem, I will indicate briefly and tentatively what seem to me to be the lines along which an answer to Professor Bode's criticism should be sought.

I will begin by stating three propositions, which must for the purposes of this article be regarded simply as postulates, no attempt being made to prove them. They relate to the perceptual process, which from the genetic point of view consists of three stages: (1) the emission of an influence from a physical object in space; (2) the reception of that influence in the form of a stimulus by a living organism and its consequent transformation into a sensation; (3) the transformation of the sense datum into a perceived object located in the space outside the organism in a point sometimes the same as, but at other times different from, the point from which the stimulus proceeded. The three postulates severally refer to these three stages: from physical object to stimulus, from stimulus to sensation, from sensation to perceived object. Professor Bode's question concerning the numerical identity or difference of the *terminus a quo* and the *terminus ad quem* of perception can only be answered on the basis of a conception of the nature of the intervening links of the process.

First postulate—*concerning the nature of the physical object and the stimulus emitted by it.* Every physical object consists not

[3] *Loc. cit.*, pp. 261–2.

of an indestructible substance, but of the energies flowing from all parts of space into the space occupied by it. It is a focus of energies. Each form of energy or *kinesis* is capable of being symbolized as a simple function of ds/dt, and with each of these forms of kinesis there is correlated a form of *stasis* or *quality* capable, perhaps, of being symbolized as a simple function of dt/ds, the reciprocal of the function symbolizing the energy. This would express the truth that wherever there is change there must be some thing or quality that undergoes the change—a mode of the static for every mode of the kinetic. An object is, then, not only a group of inflowing energies superposed upon one and the same part of space, it is also a system of the qualities correlated with those energies as their reciprocals. Now a material object as thus constituted is, of course, a center of outflowing no less than inflowing energies. Some of the energies that are radiated in all directions from it impinge upon the termini of the nervous systems of animals, and are then called sensory stimuli. *Each stimulus as a mode of energy has correlated with it a specific* QUALE. The quantity and quality of the stimulus express the nature of the object which is its source except for such modifications as may have been imposed by the medium traversed.

Second postulate—*concerning the nature of the physiological stimulus and the sensation into which it is transformed.* The chief source of the apparent hopelessness of the stimulus-sensation problem is due to the assumption that specific qualities occur exclusively in the realm of consciousness, and that the 'real' world contains only primary qualities, which means, when consistently carried out, that it is a nexus of quantitative relations without terms. The psychophysical problem is made to appear as the problem of determining how energy in the form of a nerve current lacking specific quality can pass into a sensation which is conceived as being nothing but quality, as lacking physical energy and as existing nowhere in space. According to our first postulate the stimulus emitted from an object has correlated with it a specific quality, and the passing of stimulus into sensation now appears as the production of the qualified energy of a sensation from the no less qualified energy of a nerve current. We shall assume as our second postulate that when an externally observable current of kinetic energy in an afferent nerve fiber passes or seems to pass into a sensation, that what really happens is the transformation of kinetic energy of motion into an equivalent potential energy of stress at the point in which the kinetic energy is redirected, *viz.*, the move center.[4] However fantastic their identification may at first sight appear, it is worth noting that sensations

[4] *Cf.* Karl Pearson's 'Grammar of Science,' note, p. 42.

and stresses resemble each other in two very significant points: (1) They are both conditions into which, at its points of obstruction or redirection, kinetic energy passes and from which it comes; (2) they are both essentially inaccessible, *i. e.*, 'potential' rather than 'actual' to any conceivable external observer, and possess that peculiar privacy and invisibility which is recognized as the distinctive attribute of mental processes and regarded as the chief justification for treating them as having no locus in space. *Whenever the potential energy at a nerve center is greater than the inflowing kinetic energy which is its cause, then there exists a consciousness of the quality of that energy.* In a paper entitled 'A Theory of Time Perception'[5] I expressed the same conception from the point of view of the time problem, pointing out that when the traces of past action of a stimulus exceed in intensity the present inflow, the phenomenon of a specious present, or duration-phase of existence, was made possible. It is only in consciousness that several successive moments of time can be present together in one moment; and the conditions for the occurrence of a duration or specious present and the conditions for the occurrence of consciousness are identical.

Third postulate—*concerning the relation of the sense datum to the perceived object into which it is transformed.* In that simple type of consciousness called sensation, the quality of which we are conscious has for its apperception-mass only its own past states, and there is a consequent absence of the subject-object polarity so characteristic of the more advanced types of cognition. The quality felt and the feeling of it are inseparably blended. In the perceptual field of objects to which sensations give rise, the case is quite different. Each sense datum as soon as it occurs, is surrounded by a 'fringe' composed partly of the traces of sense data associated with it in the past and partly of the other sense data coexisting with it. All of these centers of stress form an interconnected system each member of which inhibits or intensifies or in some way modifies all the others. In such a system there would naturally exist at each moment some one point at which the stress resulting from the intersecting energies which are proceeding from the various sensory centers was greater than any one of these energies. Such a point would constitute the ego-center of the perceptual field, with regard to which the surrounding sensation-centers are organized into a system of mutually compatible *objects.* The prominence or vividness of the various objects would no longer depend upon their intrinsic sensory intensity, but upon the extent to which energy was fed back to them (in the form of what we call 'attention') from the

[5] *American Journal of Psychology*, January, 1904.

ego-center in excess of the energy which they contributed to it. From this it would follow that one content could normally gain in vividness (*i. e.*, in the extent to which it was attended to) only at the expense of a corresponding loss to the contents at the opposite 'side.' And in order that the 'back stress' or outflowing energy of attention should be in excess of the inflow from the various sensation centers, it would be necessary for some of the sensory feeders of a perceptual psychosis to be unconscious, *i. e.*, to contribute to the energy of attention more than they received from it. Such a system of psychical objects would differ profoundly from a mere group of sensations. Contents having the same local signs or other relational similarities would be grouped together into clusters, and the qualitative components of each cluster, instead of having the independent substantive character belonging to them in the sensation phase, would now manifest an adjectival character and appear as attributes inhering in the cluster as in a substance or thing. And as with the elements of each cluster, so with the various clusters, each object would appear as inhering in or as presupposing the system of objects as a whole. The relational scheme of the system would be felt as prior to its particular members precisely as space and time are felt to be prior to the things and events that occupy them.

To sum up this account of the psychophysical process: We have held (1) that physical objects are centers of inflowing and outflowing energies and that they also consist of the qualities correlated with these energies; (2) that some of the energies emitted from objects do after more or less modification impinge upon the sense organs of animals, and that, after undergoing a further modification of their nature consequent upon passing from the merely physical medium of air or ether into the physiological medium of the nerve fiber, these energies, when they reach the higher centers in the nervous system, undergo a redirection during which they must pass from the kinetic into the potential phase of being, this 'potential' or invisible phase of energy being regarded by us as identical with sensation; (3) that these sensations when connected in one system induce a center of stress or ego from which their several energy currents are reprojected as a field of perceptual objects back and out into the same real space and time in which their physical causes are located. The whole process can be put in a clear though not necessarily a convincing light by imagining a vast system of dynamos (the physical objects) whose energies are given off in the form of electric currents (the stimuli). A fraction of the energy of these currents is converted by means of an interconnected system of electromagnets (the brain cells) into centers of magnetic stress (the sen-

sations), which centers of stress are reflected out from a common center as lines of force (perceived objects). Or, more simply, though less exactly, we might compare the relation of stimulus and perceived object to the relation of a ray of light incident upon a mirror and the same ray reflected from the mirror. The idea being that the nervous system serves as a mechanism for correlating and reflecting back in the form of an indivisible and invisible field of stress a portion of the more or less visible kinetic energies which stream upon it.

We may now return to Professor Bode's question as to the points of identity and difference subsisting between the physical sources of nerve stimuli and the perceived objects which they produce. Let us consider first the question of identity of substance, second, identity of quality, and third, identity of position in space and time. On the basis of what has been said, it will be at once evident that the perceived object is identical in substance (because composed of the same energy) with a part or aspect of the physical object, *viz.*, such part as has directly in the form of a present sensory stimulus or indirectly in traces of past sensation flowed into the organism. The identity is here much the same as that between the reflected and the incident light ray.

Secondly, as to quality, the question is more complex. It is certainly true that the difference between the physiological and the purely physical mediums is so great as to make it probable that the quality of a given stream of energy is radically changed in passing from the latter to the former medium. It is probable, for example, that the specific quality correlated with the ether wavelength that produces perceptual red, when the optic nerve current which it arouses is transformed into potential energy in the visual center, is itself something as different from red as the odor of musk. On the other hand, it must be borne in mind that according to our first postulate the real stuff of which an object is made is nothing but the energies which are flowing into that object from all other objects. A particular object, in other words, is nothing more or less than the whole universe as it happens to focus itself or project itself on some particular point. Consequently our own perceptual activity when directed to an object contributes to the nature of that object just as truly, though, of course, not so largely, as the sun's shining upon it. The attributes which we ascribe to it do forthwith belong to it. Does it then follow, as Professor Bode says, that the nature of an object is indeterminate, that it can be all things to all men, that its appearance is its reality and that error and illusion are meaningless? No. We can and do discriminate between the total mass of attributes ascribed to it and those few which are com-

possible or compatible with one another and with the total system of our perceptions. These *compossible* appearances are segregated from the general mass of appearance and contrasted with them as 'reality.' A mere appearance is simply a reality that has failed to harmonize with other realities, while conversely a reality is nothing but an appearance that has stood the test of our comparisons with other appearances. A thing as it is 'in itself' is a thing as it is for the whole universe of things collectively. It is the resultant of its appearances from all possible view-points. I, in perception, am one of these view-points and a member of the universe, hence what the thing appears to me to be, in the full light of all my other knowledge, that it really is throughout the length and breadth of the world as known to me.

Thirdly, as to the identity of position in space and time of the real and the perceived object. Just in so far as the locus of an immediately perceived object is actually found to be different from its locus as ascertained by comparison of all attainable perceptions, why, just in so far it is different. In all purely direct perception there is a definite and measurable aberration or displacement of the time locus or date of events due to the time taken by the stimulus in traveling to the brain. The events which we see at present are the events of a little time ago. As all things are in motion there is also a space aberration, which, however, is so slight and so uniform as not seriously to trouble us. The two encouraging points about our perceptual knowledge are (1) that it is good and *real* so far as it goes, and must be presumed to be true until proved to be false; (2) that the very distortions and errors of perception are mutually corrective when compared together in that wider social type of perception which constitutes reflective knowledge.

I would add in conclusion that if the account which I have given of the psychophysical process seems fanciful and crudely materialistic, it yet has a claim to consideration on the ground that there are no other theories in the field that do not lead either to the paradoxes of subjective idealism or to the still greater paradoxes of psychophysical dualism and parallelism.

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REVIEWS AND ABSTRACTS OF LITERATURE

The Psychology of Religious Belief. JAMES BISSETT PRATT. New York: The Macmillan Co. 1907. Pp. xii + 327.

This volume is a happy addition to the rapidly growing literature of religious psychology. It deals with a side of the subject that as yet has

received scant attention from the scientific students of the religious consciousness. While the valuable works of Coe and Starbuck are devoted principally to the study of conversion, and James's great work is concerned largely with mysticism, Professor Pratt presents us with a study of belief.

The work is divided into three parts, treating respectively of the psychology of belief in general, the manifestation of the three typical forms of religious belief in history, and the status of religious belief at the present time. The author begins by a classification of what he regards as the elements of the mental life. Mental phenomena in his view consist of two main types, the central and the marginal. The center of consciousness consists of what is clear-cut, definite, of all that is analyzable and describable, while the margin or background consists of all that is indefinite and indescribable, private, subjective, incommunicable and subconscious. Among the central experiences, again, we can distinguish two subdivisions—sensation and ideation—which show a marked difference in character. The marginal experiences are not so easily analyzed into subdivisions. Yet in a rough way one can distinguish two sorts of psychic material, 'feeling and what is known as the phenomena of the background.' The background, or fringe region, can not be clearly marked off from feeling. They are more like one another than is either to sensations or ideas. "All pleasure-pains, all feelings of tension and relief, of excitement and depression (if we adopt Wundt's classification) have the same lack of clear-cut outlines, the same irrational and private nature, the same subjective and non-representative quality, that characterize the background" (p. 12). While feeling and fringe are theoretically distinguishable, they are nevertheless so closely related that the whole class of non-rational, marginal experiences may be called the 'feeling background.' It is of especial importance to note the intimate and direct relation of the feeling background to the organic life. Here are found our vital needs, our instinctive desires and impulses, our native antipathies and tendencies, our deepest loves and hates. To the background belong, too, all subliminal phenomena. The brightness of the central area in experience must not lead us to take it for the whole man. "The instinctive part of our nature, in part conscious, in part unconscious, is ultimately the dominating factor in our lives and the source of most of our real ideals." It is 'the immense and vital importance of our instinctive life as manifested in the feeling background and as seen particularly in the religious consciousness' which our author declares to be the one contention for which he wishes the book to stand (p. 28). With most psychologists (*e. g.*, Wundt, Baldwin) the distinction between focal and marginal experiences is not one of kind, but only of degree of attention. The same thing may be now marginal, now focal. The sound of the wind as I sit writing is marginal until I turn attention to it, and then it becomes focal. In James's recognition of the substantive and transitive parts of experience, the object and its fringe of relations, we find the qualitative distinction implicit. Professor Pratt is, I believe,

the first to make this distinction explicitly one of kind. One is reminded of Royce's 'description' and 'appreciation,' but while Royce's distinction is epistemological, Pratt's is psychological.

With this description of psychic elements established, the author goes on to determine the nature and kinds of belief. "Belief," he says, "may be briefly defined as the mental attitude of assent to the reality of a given object." He thus includes under belief what Baldwin calls the reality-feeling. Three types of belief are distinguishable—primitive credulity (both in matters of sense perception and in the naïve acceptation of what is told us by others), intellectual belief and emotional belief. These three kinds of belief as concerned with man's faith in the divine have produced respectively the 'religion of primitive credulity,' the 'religion of thought' and the 'religion of feeling.'

In the second part of his book the author traces the development of religious belief through these three stages in four of the historical religions—primitive animism, the religions of India and Israel, and Christianity. The survey is an interesting one. In each of the four religions examined we are shown convincing examples of the three types of belief, unless possibly one might question the evidences offered for the 'religion of thought' in animism. In Christianity, the 'religion of primitive credulity' is illustrated by the dominance of authority in the medieval church, the 'religion of feeling' by Christian mysticism, and the 'religion of thought' by eighteenth century rationalism in England. His examination of the attempts to base the belief in God on rational grounds leads him to the dilemma: "The arguments which the people can grasp are no longer tenable, while the arguments that are tenable—if such there be—the people can not grasp" (p. 194).

Part III. is a study of the present status of religious belief. Two of the four chapters, 'Types of Belief in Mature Life' and 'The Value of God,' are based on a questionnaire sent out by the author. This last-mentioned chapter is perhaps the most important contribution of the book to our knowledge of the religious consciousness. It shows, so far as can be judged from some seventy cases, the actual significance which the belief in God and the practise of prayer have for many people to-day. The answers to his questions point with unanimity to the conclusion that 'God is valued, not as an explanation of things and an assistance to the understanding, but rather as an immediate help in the practical and emotional life.' Our author's final conclusion is that the 'religion of authority' and the 'religion of thought' are both fast passing away. The one hope for the future is in the 'religion of feeling.' This type of belief rests not on the illumination of the center, but on the deeper, if dimmer, experiences of the background. "It is an outcome of the needs and demands of the organism, not of the reason. It has its roots deep in the field of vital feeling. . . . It is an attitude toward the universe; our reaction to the stimulus of the whole cosmos. This reflex is determined by no momentary reasoning of the individual. The whole line of his heredity, the whole of his conscious and unconscious personality, are involved

in it. . . . It is the feeling background that determines his belief, and this might be described as the reason and experience of the race become organic" (p. 294).

After reading such passages as this in which the roots of religion are so clearly traced to the vital depths of human nature, one is not prepared for the doubtful, almost pessimistic, turn in which the writer presents the outlook for the future of religion. He overestimates, I believe, the importance of the decline in the beliefs of authority and the beliefs of reason. The force of the imitative tendency and social contagion will determine belief for the majority in religion as in other matters, and in the future as in the past. The beliefs of the reason have never been really dynamic except in the minds of a very few. Their influence has been negative rather than positive. They have put a valuable check on the wild exuberance of the native religious growths. They influence theology much, religion little. Theology is the effort of the understanding to adjust the knowledge of the world to the religion of the heart. It must change as the knowledge of the world changes. But I can see no reason to doubt the permanence of the religious strain in human nature, founded, as it is, on vital needs and the great dominating background of organic and analyzable experiences.

The clear and simple style of the book, together with the note of earnestness and sincerity that pervades it, makes it a pleasure to read. It is a scholarly study of a psychological problem. It will be read with profit by many who have neither a psychological training nor scholarly interests. A carefully selected bibliography of the psychology of religion and an index add to the usefulness of the book for the purposes of the student.

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The New Knowledge. ROBERT KENNEDY DUNCAN. New York: A. S. Barnes & Co. 1905. Pp. xviii + 263.

This book is one of the best and the most important of the recent contributions to that modern literature whose purpose is to unite again the realms of philosophy and of science. In language shorn of the technical terms usually used in such discussions there is presented to the lay reader a clear and vivid picture of those recent scientific investigations and speculations which are even now fast compelling us to change the older materialistic conceptions of science for others more suited to the requirements of present-day thought.

Beginning with a statement of some of the current conceptions of the nature of matter, ether and energy, Mr. Duncan proceeds to describe the manner in which the periodic law of atomic weights was established; and to explain its significance, its use, and the problems to which it gives rise. The following chapters deal with the investigations of the conduction of electricity by gases, and with the arguments that have led to the theories of ions and of corpuscles. The study of these chapters

can not fail to give the reader an insight into the marvelous ingenuity and resourcefulness of the modern man of science when confronted with a problem worthy of his mettle.

But the picture does not end here. The presentation of this outline of the experiments and inductive arguments which have led to the formation of the concepts of ions and of corpuscles is followed by a no less interesting discussion of the partial verification of these theories by the unexpected discovery of radium and of the other radioactive substances with their well-nigh magic properties. The veriest skeptic could hardly refrain, after grasping the meaning and the scope of the revelations here described, from being thrilled with a spark of that scientific enthusiasm—now much needed because almost extinct—which so filled Galileo when he first beheld the satellites of Jupiter that he fervently thanked God for permitting him to perceive such unsuspected marvels.

After describing the facts of radioactivity, the author discusses some of the conclusions that may be drawn from these facts; such as the possibility of the transmutation of the elements, atomic disintegration, interatomic energy, etc. It is here shown that the philosopher's stone of the medieval alchemist can no longer be regarded as the wild dream of an overvivid imagination, but that it may now lie within our reach. We also learn of the almost incredible amount of energy which is stored within the 'inwards' of everything about us, awaiting the magic touch of him who shall discover the yet secret process of harnessing it to do the work of man. Nor is this all; for we are assured that that valiant ideal of physical science—the discovery of the nature of matter—has been shattered beyond repair, since what has been considered to be matter turns out to be, in the light of the new knowledge, nothing but electricity after all! It is not, however, shown how this Sphynx's riddle is now nearer solution because of this illuminating discovery.

The last two sections of the book are devoted to a discussion of inorganic evolution and to the application of the new knowledge to old problems. In the first of these sections the evidence for a belief in both the evolution and the devolution of material worlds is presented. In the second, the theories derived from the new knowledge are applied to such problems as the origin of the heat of the sun, the nature of the aurora borealis and of comets' tails, etc. The investigations here presented are of great importance for two reasons. In the first place, they are shown to furnish data which may compel us to expand the idea of evolution to include the inorganic world; thus both opening the way for the possible discovery of a principle so general as to be competent to resume all our facts, both organic and inorganic, and giving to the physical sciences an opportunity to do their part in discovering the unity in this great world process. In the second place, these investigations tend to show that the universe is not, as the older physics would have us believe, necessarily running down and approaching a condition of temperature equilibrium in which no more energy would be available for the performance of useful work. Thus the new knowledge would convert scientific pessimism into

scientific optimism; and we have furnished us a mental picture of an eternity of matter, which picture will some day be found indispensable in assisting us to form rational conceptions of the eternity of spirit.

So this book by Mr. Duncan is a splendid contribution to present discussions, not only because the facts presented are so much stranger than fiction that they are driving us to recast our scientific and philosophic conceptions of the nature of things, but also because these same facts are presented to the reader so skillfully that they read as easily as fiction, and so will be read widely outside of technical circles.

The new knowledge is so new, that no one can be expected to accept without comment the author's definitions of science as redefined. Some may be so unkind as to think that the book would have been more useful if he had not yet attempted to crystallize his opinions in propositions which often mean nothing because of the lack of meaning of the terms employed. It seems, however, ungracious to pick minor flaws in a work that is so admirable a rendering of so difficult a theme. We heartily recommend the book to those who wish to get a capital résumé of the investigations and arguments that have led to these recent remarkable additions to physical knowledge. The physics of the book is sound, but we would warn the reader against accepting too readily the metaphysical suggestions put forth. New knowledge must inevitably in time lead to new conceptions, and it is still true that it is not wise to put new wine into old bottles.

C. R. MANN

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The Idealist and the Intuitionist. HELEN WODEHOUSE. *International Journal of Ethics,* January, 1907. Pp. 164–180.

"I am not going to write history. Intuitionism as it has appeared in the past does not concern me; it may be true that this has a close relation to idealism, and it has certainly been a good ally against naturalist schools. But certain views, lately put forward under the name, I believe are destined to be of considerable use to the coming generation, if only their upholders and the idealists will not try to adopt each other as allies (and complain of each other as bad ones)" (p. 165). Modern intuitionism as contrasted with idealism is thus the subject of the article, especially the intuitionism of Mr. Moore and of Professor Sidgwick.

Mr. Moore's intuitionism differs from idealism as to the significance of 'approval, the state of mind in which we judge a thing as good.' "Approval *as such* . . . is an element distinct from the whole world of our desires. We approve when, without reference to any want or need in ourselves, we recognize that this or that is absolutely good" (p. 166). Idealism, on the other hand, connects approval with human desire, human need, as something to be satisfied. Professor Sidgwick's intuitionism differs from idealism as to the significance of 'moral obligation.' While his 'good' agrees with that of the idealists, his 'ought' is rather intuitionistic. As Miss Wodehouse quotes him, "It seems to me, however,

more in accordance with common sense to recognize—as Butler does—that the calm desire for my 'good on the whole' is authoritative, and therefore carries with it implicitly a rational dictate to aim at this end" (p. 169). Idealism, on the other hand, connects 'ought' with 'This is what is wanted.'

Miss Wodehouse shows clearly how a vague want may pass into an apparent imperative. "I notice that I want some things more permanently than others, some only as means; some I seem always to want at bottom; some other people agree with me in wanting. I gradually form the conception of something that remains good for me whatever I may seem to want at the moment, and again of something that is good for others as well as for myself. The limits become vague, and I easily pass into thinking (1) of something which essentially is good *whatever* I want, temporarily or permanently and at top or at bottom, (2) of something which is good *for* nobody in particular, good in itself" (p. 171). Idealism thus should base its doctrine on personal desire and satisfaction, while intuitionism should do without any such individual basis.

The author brings out a further point. There may be a want or need for a thing not a part of our individual experience, *e. g.*, any event to take place after death. Here such need may be said to be fulfilled, without being satisfied. We may then have 'fulfillment without satisfaction.' From this point of view approval may be defined as 'the recognition or perception or feeling that a thing fulfills my need, or if actual, would fulfill it' (p. 174). 'Ought' may be defined as a demand, as meaning 'This would fulfill a need' (p. 175).

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JOURNALS AND NEW BOOKS

REVUE PHILOSOPHIQUE. March, 1907. *Sur l'imagination affective* (pp. 225–255): F. PILLON. – Starting from Ribot's establishment of the fundamental character of the affective life, the author sets out to show the presence of affective imagination in many psychic phenomena where its action is not usually noted. There is a brief historical and critical sketch which includes a criticism of James's theory of the emotions as taking an inseparable associate for the essence of the thing. Ribot's theory is applied to animal psychology, to ethics and to pedagogy. *Le mouvement logique* (pp. 256–288): A. LALANDE. – The author distinguishes six different types of logical theory: (1) logistic, (2) *a posteriori* or scientific analysis, (3) metaphysical, (4) genetic (*i. e.*, reformed evolutionism), (5) Aristotelian, (6) Kantian. Logical writings of R. P. Nugon, A. Wolf, A. T. Shearman, A. Pastore, B. Croce and G. Vailati are reviewed critically. The most interesting are Pastore's attempt to construct mechanical models of logical theorems and Croce's rejection of symbolic logic. The latter is an interesting mingling of a pragmatic doctine of science and intellectual dogmatism in philosophy. *De l'esprit*

magique à l'esprit scientifique (Ier article) (pp. 289–305): J. SAGERET. – Through the study of the difference between the scientific mind and that of magic-working peoples, the author hopes to contribute to the solution of the problem, what is science. The history of magic shows that both savage magic and that of more highly developed peoples agree in the use of the two axioms, the part is equivalent to the whole and like acts on like. *Analyses et comptes rendus.* Pillon, *L'année philosophique, 1905:* JULES DELVAILLE. Petrucci, *Origine polyphylétique, homotypie et non-comparabilité directe des sociétés animales:* S. JANKELEVITCH. Houzé, *L'aryen et l'anthroposociologie:* S. JANKELEVITCH. Adikes, *Kant contra Haeckel:* Baumann, *Kant und Haeckel:* S. JANKELEVITCH. Binet, *Les révélations de l'écriture d'après un contrôle scientifique:* DE FURSAC. Kostyleff, *Les substituts de l'âme dans la philosophie moderne:* FR. P. Pillsbury, *L'attention* J. P. NAYRAC. *Wodon, Sur quelques erreurs de méthode dans l'étude de l'homme primitif:* S. JANKELEVITCH. Severac, *La secte russe des Hommes de Dieu:* H. DELACROIX. Dubray, *The Theory of Psychical Dispositions:* RIBOT. *Revue des périodiques étrangers.*

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Sumner, William Graham. *Folkways: A Study of the Sociological Importance of Usages, Manners, Customs, Mores and Morals.* Boston: Ginn & Co. 1907. Pp. iv + 692.

NOTES AND NEWS

THOSE who are interested in the history of culture will not wish to overlook the 'Plea for the Study of the History of Medicine and Natural Science,' by Berthold Laufer, in *Science* for June 7; the paper was read before the American Anthropological Association, at the meeting of the American Association for the Advancement of Science, December 31, 1906. From it the following extracts are selected: "The main trend of the last century was naturalistic and economic to a marked degree; so much so, that the new methods discovered in natural science, and the vast progress resulting therefrom, seemed to foreshadow an entirely unpre-

cedented epoch in the history of science, and the generation of that age was only too eager to sever all links connecting it with the accomplishments of former ages. The inauguration of the twentieth century presents a somewhat contrary aspect. One of its primary tendencies has been towards a restoration of our lost connection with the eighteenth century and with earlier periods, resulting in a movement of such earnest and impressive character that we can not foretell at the present moment whether the eighteenth century will not, at some day not far off, seem nearer to us than the sober prose of the nineteenth." Among the agencies to promote the history of science, the writer mentions as most noteworthy "the journal *Zoologische Annalen,* founded in the interests of the history of zoology in 1904 by Max Braun, professor of zoology at the University of Königsberg, and the organization of the Deutsche Gesellschaft für Geschichte der Medizin und der Naturwissenschaften, in Hamburg, on September 25, 1901—a most active and industrious society, which, now under the able leadership of Professor Karl Sudhoff, of Leipzig, has thus far published six volumes of 'Mitteilungen zur Geschichte der Medizin und der Naturwissenschaften.' . . . The recent proposed action of the Berlin Academy of Sciences in regard to the publishing of a complete edition of the Greek medical authors may also be mentioned in this connection; and the new epoch-making researches on the life, personality and works of Theophrastus Paracelsus." The writer describes proposals in Europe to organize museums for these subjects, and continues: "I now venture to suggest that such a museum, representing the development of medicine, natural sciences and technics in their whole range, be established in this country, perhaps here in New York, which seems to be the most appropriate place for it; and I am under the strong impression that such an institution would be of wide and universal benefit to our public at large, and would contribute immensely towards the furtherance of science, both natural and historical, and also considerably aid the cause of anthropology. . . . The most obvious gain which could be derived from the carrying out of these suggestions would be closer affiliation and more intimate contact of all the sciences. In the pursuit of historical investigations, we are all on common ground, and the character of the subject necessitates mutual dependence and assistance. It logically leads to a plea for cooperation, through the efficiency of which many of our most important problems are awaiting their final solution."

MR. FREDERICK SODDY, in the course of his review (*Nature,* May 9) of Sir Oliver Lodge's work on electrons, makes the following observations on the whole subject of enthusiasm for *Urstoff.* "Without in the least wishing to minimize the importance of the part played by imagination and hypothesis in experimental science, the question may fairly be asked whether these persistent efforts to 'simplify' matter and reduce it to a single fundamental existence have a place in the legitimate thought of the present day or whether they are not a continually recurring phase of an apparently innate primitive mental aspiration, the origin of which is

to be sought, not in the phenomena themselves, but in the predilections of the human brain? The rule that where one conception suffices it is superfluous to use more than one, may be fully granted. But it is surely something of a mental luxury to believe that these ideas of the essential unity of matter, and its ultimate reducibility to a single type, which exist deep down in the most ancient mythologies, and may be said to form part of the common stock of original ways of thinking, have, as yet, any other than this foundation. . . . It is, of course, possible that with the even fuller knowledge of the future some such doctrine as a connection between what is mentally harmonious and what is physically true may transpire, and the doctrine find a legitimate place in the theories of pure physics. But for the present the supporters of the electronic theory of matter have to show that they have not allowed their enthusiasm to betray them into an attitude of mind which belongs rather to the past than to the future of scientific thought."

Nature for May 23 contains a brief account of a monument erected to Linnæus in the eighteenth century. The monument was not a public one, and consisted only of an inscription in marble—dedicated, probably, in 1778, the year of the naturalist's death. It owed its existence to the enthusiasm of Domenico Cirillo, the Neapolitan friend and correspondent of Linné, who had made the botanical garden of his private grounds the rallying point for Neapolitan scientific men. During the revolution of 1799, the mob destroyed Cirillo's house, gardens and collections, including the tablet to Linnæus, letters from Isaac Newton, and the famous herbarium of Ferrante Imperato, preserved since the sixteenth century.

AN American editorial board of the *Hibbert Journal* has been organized, with the following list of members: B. W. Bacon, of Yale University; E. B. Craighead, president of Tulane University; Samuel A. Elliot, president of the American Unitarian Association; G. H. Howison, of the University of California; C. J. Keyser, of Columbia University; A. O. Lovejoy, of Washington University; A. C. McGiffert and William Adams Brown, of the Union Theological Seminary; R. Heber Newton, of East Hampton, N. Y.; Josiah Royce, of Harvard University; George E. Vincent, of the University of Chicago, and R. S. Woodward, president of the Carnegie Institution. It is hoped that by the cooperation of the American board the studies to which the *Hibbert Journal* is devoted may be substantially promoted. The American editors begin their duties immediately.

MR. ROWLAND HAYNES, associate in philosophy at Chicago in 1906–7, has been appointed instructor in psychology at the University of Minnesota. The psychological laboratory of the University is to be reopened under the supervision of Professor Miner, who intends to make the experimental work bear upon problems in education.

DR. J. CARLETON BELL (Ph.D., Harvard), instructor in experimental psychology, Wellesley College, has been appointed to take charge of the new psychological laboratory in the Brooklyn Training School for Teachers.